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10/626,047	07/23/2003	Isao Hoda	16869P-078900US	1455

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EXAMINER

STOKELY-COLLINS, JASMINE N

ART UNIT	PAPER NUMBER
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2609

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/626,047

Applicant(s)

HODA ET AL.

Examiner

Jasmine Stokely-Collins

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 1/23/07 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 7/23/2003, 1/26/2007.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

DETAILED ACTION

Specification

1. The abstract of the disclosure is objected to because it exceeds the 150-word limit. Correction is required. See MPEP § 608.01(b).

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 14, 18-21 are rejected under 35 U.S.C. 102(e) as being anticipated by Inui et al (7,092,044 B2).

Regarding claim 1, Inui teaches a digital broadcasting receiving apparatus for receiving a broadcasting signal (abstract, figure 1), comprising:

- a tuner unit configured to extract a signal of a desired physical channel from an input signal (figure 1 element 2: tuner),
- a first judging unit configured to judge whether or not the signal extracted by the tuner unit includes a digital broadcasting signal is evidenced by the channel map shown in figure 4 (which indicates whether a channel is digital, analog, or other,) and column 3 lines 60-63 state that the channel map is obtained by a signal scan and;
- a program information obtaining unit configured to extract the program information included in the digital broadcasting signal from the signal extracted by the tuner unit and processed by the first judging unit, if the program information included in the digital broadcasting signal can be extracted, when it is judged in the first judging unit that the signal extracted by the tuner unit includes the digital broadcasting signal (figure 1 element 6: TS analysis circuit, column 3 lines 50-53); and
- a memory unit configured to store a judgment result in the first judging unit and the program information of the digital broadcasting signal obtained by the program information obtaining unit (figure 1 element 7, column 4 lines 54-56, figure 4).

Regarding claim 14, when read in light of claim 1, Inui further discloses the program information obtaining unit is disposed downstream of the first judging in a signal processing path for the signal extracted by the tuner unit to extract the program information from the signal which has been processed by the first judging unit in the same signal processing path (figure 1). Inui's invention digital broadcast receiver stores its judgment in memory (element 7 of figure 1), which is upstream from the program information obtaining unit (figure 1 element 6: TS analysis circuit). Therefore, the judging unit responsible for making that judgment is upstream from the information obtaining unit.

Regarding claim 18, when read in light of claim 1, Inui further discloses the program information which is included in the digital broadcasting signal includes any information of virtual channel number (figure 4), modulation system, channel TS-ID, and program number.

Regarding claim 19, Inui teaches a receiving apparatus for receiving a broadcasting signal (figure 1) comprising:
a tuner unit (figure 1 element 2) configured to extract a signal of a desired frequency from a broadcasting signal which includes a plurality of frequencies and one or more programs at each of the plurality of frequencies (column 3 line 64-column 4 line 2);
a program information obtaining unit (figure 1 element 6) configured to obtain

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program information which identifies the program included in the signal that is extracted in the tuner unit; and

an output unit (figure 1 element 6) configured to output a signal representing channel information which can be selected for broadcasting (column 6 lines 5-8), wherein the channel information includes,

first information which represents that, without identifying the program included in the frequency extracted, the frequency is available (column 6 lines 14-23), and

second information which represents that, by identifying the program included in the frequency on the basis of the program information obtained in the program information obtaining unit, the frequency is available (column 1 line 66-column 2 line 12), and

wherein the first information and the second information are information corresponding to different frequencies of the broadcasting signal, respectively.

Regarding claim 20, when read in light of claim 19, Inui teaches the receiving apparatus as set forth in claim 19, wherein, the first information comprises information which represents that the physical channel is available, if the physical channel including a digital broadcasting signal can be extracted in the tuner unit and the program information of the physical channel cannot be obtained by the program information obtaining unit (column 6 lines 14-23, where the program information could not be obtained during the initial scanning when creating the channel map), and

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the second information comprises information which represents that one or more programs included in the physical channel are available, if the physical channel including a digital broadcasting signal can be extracted in the tuner unit and the program information (virtual channel number) of the physical channel can be obtained by the program information obtaining unit (during the initial scan column 3 lines 60-63).

Regarding claim 21, when read in light of claim 19, Inui teaches the receiving apparatus as set forth in claim 19, further comprising a memory unit configured to store the channel information (figure 1 element 7, column 4 lines 54-56), wherein when a physical channel selected from the memory unit (channel map stored in memory 7) includes information representing that, without identifying the program included in the physical channel, the physical channel is available (figure 4), the program information obtaining unit newly obtains the program information included in the physical channel, and the output unit outputs images of one or more programs included in the physical channel based on the program information obtained (column 5 line 65-column 6 line 23).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2-5, 8, 11-13, 17, 22, 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inui et al (7,092,044 B2) in view of Shigihara et al (US 5,966,186).

Regarding claim 2, Inui teaches the digital broadcast receiving apparatus of claim 1 and judging in the first judging unit that the signal extracted by the tuner unit includes the digital broadcasting signal.

Inui does not teach a second judging unit configured to judge whether or not program information included in the digital broadcasting signal can be extracted.

Shigihara teaches a judging unit configured to judge whether or not program information included in the digital broadcasting signal can be extracted, when it is judged in the first judging unit that the signal extracted by the tuner unit includes the digital broadcasting signal (figure 1b: error detecting/correcting circuit, column 8 lines 38-49, column 10 lines 22-26). It would have been obvious to one of ordinary skill in the art at the time the invention was made to add the error detection capability of Shigihara's receiver digital receiver to Inui's digital receiver for the benefit of tracking signal quality for error correction, analysis, or as criteria for deciding whether to search for another channel carrying the same program.

Regarding claim 3, when read in light of claim 2, Inui further teaches the program information obtaining unit extracts the program information included in

the digital broadcasting signal and the memory unit stores the program information of the digital broadcasting signal obtained by the program information obtaining unit, if it is judged in the second judging unit that the program information included in the digital broadcasting signal can be extracted (column lines 21-37).

Regarding claim 4, when read in light of claim 2, Inui further teaches the tuner unit is configured to extract signals of a plurality of physical channels which are classified into a first classification:

a physical channel being in the first classification if the signal of the physical channel is judged in the first judging unit to include a digital broadcasting signal and which is judged in the second judging unit that the program information included in the digital broadcasting signal can be extracted therefrom (column lines 21-37); and

wherein the first and second classifications of physical channels are stored in the memory unit (figure 4 shows a channel map for storing all channels) , and limitation "the tuner unit is configured to extract signals of a plurality of physical channels which are classified into a second classification:

a physical channel being in the second classification if the signal of the physical channel is judged in the first judging unit to include a digital broadcasting signal and which is judged in the second judging unit that the program information included in the digital broadcasting signal cannot be extracted therefrom; and

wherein the second classification of physical channels are stored in the memory unit" is further met by Shigihara (column 5 lines 56-63).

Regarding claim 5, when read in light of claim 4, Inui further teaches the tuner unit is configured to extract signals of a plurality of physical channels which are classified into a third classification, wherein a physical channel is in the third classification if the signal of the physical channel is judged in the first judging unit not to include a digital broadcasting signal; and wherein the third classification of physical channel is stored in the memory unit (figure 4, see analog channel 13).

Regarding claim 8, when read in light of claim 2, Shigihara further teaches an error correction unit configured to carry out an error correction of the input signal, and wherein the second judging unit judges whether or not the program information included in the digital broadcasting signal can be extracted based on a bit error rate which is detected in the error correction unit (column 8 lines 38-49).

Regarding claim 11, when read in light of claim 2, Inui further teaches when a physical channel selected from the memory unit has a signal which was judged in the first judging unit to include the digital broadcasting signal and which

was judged in the second judging unit to contain program information that could not be extracted, the program information obtaining unit is configured to newly obtain the program information which is included in the digital broadcasting signal (column 5 lines 21-37).

Regarding claim 12, when read in light of claim 11, Inui further teaches when the program information which is included in the digital broadcasting signal is newly detected, the program information obtained is stored in the memory unit (column 4 lines 21-24).

Regarding claim 13, when read in light of claim 2, Inui further teaches a display device (figure 1 element 12) for displaying image information which is included in the signal of the physical channel that is extracted in the tuner unit, and information representing results judged in the first judging unit and the second judging unit.

Regarding claim 17, when read in light of claim 1, Shigihara further teaches an amplifying unit configured to amplify the signal which is inputted (figure 2 element 71), and wherein the first judging unit judges whether or not the digital broadcasting signal is included based on an AGC voltage in the amplifying unit (column 5 lines 8-12).

Regarding claim 22, Inui teaches a digital broadcasting receiving method in which channel information of a digital broadcasting is scanned by channel scan and stored (column 1 lines 45-63), comprising: selecting a physical channel from a signal received (column 1 line 64-column 2 line 2); judging whether or not the selected physical channel includes a digital broadcasting signal (figure 4); judging whether or not program information included in the digital broadcasting signal can be obtained, in case that it is judged that the digital broadcasting signal is included; and storing in a memory unit that the physical channel includes the digital broadcasting signal, when it is judged that the selected physical channel includes the digital broadcasting signal (figure 4)

Inui does not teach deciphering whether the program information included in the digital broadcasting signal can be obtained

Shigihara teaches deciphering whether the program information included in the digital broadcasting signal can be obtained (figure 1b: error detecting/correcting circuit, column 8 lines 38-49, column 10 lines 22-26, column 3 lines 41-47).

Regarding claim 24, when read in light of claim 22, Inui further teaches when a physical channel selected from the memory unit includes a signal which

was judged to include the digital broadcasting signal but the digital broadcasting signal was judged to contain program information which could not be extracted: newly obtaining the program information of the physical channel, storing in the memory unit the newly obtained program information of the channel (column 5 lines 25-33); and outputting a program included in the physical channel, based on the newly obtained program information of the physical channel (figure 6).

Regarding claim 25, see analysis of claims 1 and 2.

7. Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inui et al (7,092,044 B2) in view of Shigihara et al (US 5,966,186), and further in view of Kim (GB 2348330).

Regarding claim 6, when read in light of claim 4, Inui in view of Shigihara teaches the digital broadcasting receiving apparatus of claim 4.

Inui in view of Shigihara does not teach an output unit configured to output such a display signal that a channel which is stored in the memory unit and belongs to the first classification and a channel which is stored in the memory unit and belongs to the second classification are separately displayed on a display screen as channels which can be selected, respectively.

Kim teaches an output unit configured to output such a display signal that a channel which is stored in the memory unit and belongs to the first

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classification and a channel which is stored in the memory unit and belongs to the second classification are separately displayed on a display screen as channels which can be selected, respectively (figure 5b, page 5 line 22- page 6 line1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to display the different categories of channels taught by Inui in view of Shigihara for the benefit of indicating to the user which channels will display program information clearly and which channels will not.

Regarding claim 7, when read in light of claim 6, Inui further discloses the output unit comprises a television (page 3 lines 4-10).

8. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Inui et al (7,092,044 B2) in view of Shigihara et al (US 5,966,186), and further in view of Caporizzo (US 5,574,495).

Regarding claim 9, Inui in view of Shigihara teaches the digital broadcast receiving apparatus of claim 8 wherein the second judging unit judges whether or not the program information included in the digital broadcasting signal can be extracted based on a result of detecting the bit error rate in the error correction unit.

Inui in view of Shigihara does not disclose detecting the bit error rate a plurality of times.

Caporizzo teaches detecting the bit error rate a plurality of times (abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Caporizzo's method of detecting error a plurality of times with the error-detecting receiving apparatus taught by Inui in view of Shigihara for the benefit of obtaining a more accurate bit error rate.

9. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Inui et al (7,092,044 B2) in view of Shigihara et al (US 5,966,186), and further in view of Taura et al (US 6,067,332).

Regarding claim 10, Inui in view of Shigihara teaches the digital broadcast receiving apparatus of claim 2, further comprising an error correction unit configured to carry out an error correction of the input signal, and wherein the second judging unit judges whether or not the program information included in the digital broadcasting signal can be extracted based on data outputted from the error correction unit (see analysis of claim 8).

Inui in view of Shigihara does not teach judging whether or not the program information included in the digital broadcasting signal can be extracted based on synchronization establishment of digital data.

Taura teaches judging whether or not the program information included in the digital broadcasting signal can be extracted based on synchronization establishment of digital data (abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the use of

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synchronization establishment to determine if a digital broadcasting signal is extractable taught by Taura with the digital broadcast receiving apparatus taught by Inui in view of Shigihara for the benefit of testing all the appropriate criteria needed to successfully reproduce digital broadcast data.

10. Claims 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inui et al (7,092,044 B2) in view of Shintani et al (US 6,137,546).

Regarding claim 15, when read in light of claim 1, Inui teaches the digital broadcast receiving apparatus of claim 1.

Inui does not teach a demodulating unit configured to demodulate the signal extracted by the tuner unit from the input signal, and wherein the first judging unit judges that the input signal includes the digital broadcasting signal when a predetermined synchronization signal is detected in the signal being demodulated in the demodulating unit

Shintani teaches a demodulating unit (figure 3 element 16) configured to demodulate the signal extracted by the tuner unit from the input signal, and wherein the first judging unit judges that the input signal includes the digital broadcasting signal when a predetermined synchronization signal is detected in the signal being demodulated in the demodulating unit (column 5 lines 7-16). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the digital signal judgment of Shintani into the

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digital broadcast receiving apparatus of Inui for the benefit of establishing a valid NTSC signal, as taught by Shintani (column 5 lines 11-12).

Regarding claim 16, see analysis of claim 15.

11. Claims 23 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inui et al (7,092,044 B2) in view of Shigihara et al (US 5,966,186), and further in view of Piotrowski et al (US 2002/0140871 A1).

Regarding claim 23, Inui in view of Shigihara teaches the digital broadcasting receiving method of claim 22. Furthermore, Inui in view of Shigihara teaches storing that the physical channel includes the digital broadcasting signal, when it is judged that the selected physical channel includes the digital broadcasting signal but the program information included in the digital broadcasting signal cannot be obtained; and storing channel information of the physical channel, when it is judged that the selected physical channel includes the digital broadcasting signal and the program information included in the digital broadcasting signal can be obtained (see analysis of claim 4).

Inui in view of Shigihara does not teach displaying that the physical channel includes the digital broadcasting signal, when it is judged that the selected physical channel includes the digital broadcasting signal but the program information included in the digital broadcasting signal cannot be obtained; and

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displaying channel information of the physical channel, when it is judged that the selected physical channel includes the digital broadcasting signal and the program information included in the digital broadcasting signal can be obtained.

Piotrowski teaches displaying that the physical channel includes the digital broadcasting signal, when it is judged that the selected physical channel includes the digital broadcasting signal but the program information included in the digital broadcasting signal cannot be obtained; and displaying channel information of the physical channel, when it is judged that the selected physical channel includes the digital broadcasting signal and the program information included in the digital broadcasting signal can be obtained. Piotrowski discloses displaying the channel map in page 2, section 0020. It would have been obvious to combine the channel information display capabilities of Piotrowski with the channel map taught by the digital broadcast receiving method of Inui in view of Shigihara for the benefit of having an easy channel selection method.

Claim 26 is analyzed with respect to method claims 22 and 23 in which Inui further discloses a digital broadcasting receiving method in which channel information of a digital broadcasting is scanned by channel scan (column 1 lines 45-63), comprising:

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scanning a signal to preset one or more physical channels (column 3 lines 60-63).

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Shibusawa (US 7,221,412 B2) teaches a digital broadcasting receiver that scans channels to determine signal quality.

Genovese et al (US 7,113,230 B1) teaches an apparatus that continually updates a channel map based on channel signal quality and the ability to extract program information.

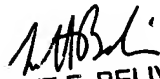
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jasmine Stokely-Collins whose telephone number is 571-270-3459. The examiner can normally be reached on M-Th 8:00-6:30 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hai Tran can be reached on 571-272-7305. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jasmine Stokely-Collins


SCOTT E. BELIVEAU
PRIMARY PATENT EXAMINER